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10/099,940	03/19/2002	Kazuhiro Ishiguro	018987-041	6305

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Platon N. Mandros
BURNS, DOANE, SWECKER & MATHIS, L.L.P.
P.O. Box 1404
Alexandria, VA 22313-1404

EXAMINER

BURLESON, MICHAEL L

ART UNIT	PAPER NUMBER
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2625

MAIL DATE	DELIVERY MODE
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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/099,940

Applicant(s)

ISHIGURO, KAZUHIRO

Examiner

Michael Burleson

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 03/28/2007 have been fully considered but they are not persuasive.
2. Applicant states that the prior art reference of Sugawa does not disclose the claimed first and second judgment units, by stating Sugawa only includes one edge detector (element 2512) which merely outputs an edge detection amount, from which the edge discriminator 2513 determines whether or not the image is a character image or a halftone image (Applicant's remarks, page 7-8). Examiner disagrees with Applicant. In Applicant's specification, the first area judgment unit (400) is provided in order to detect edge areas of both black and color characters (specification page 11) and the second area judgment unit (500) is provided to detect edge areas of an image having halftone areas (Applicant's specification page 12). Sugawa teaches that the edge detector (2512) detects the amount of edge components (which can be black or color components) of an image (column 4, lines 56-59). Then, the edge discriminator (2513) determines whether the edge amount entered is a character or halftone (column 4, lines 60-65). The edge detector (2512) and edge discriminator (2513) perform the functions of the first and second edge detectors as claimed by Applicant and described in Applicant's specification.
3. The rejection of claims 1-13 is maintained.

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,2,5 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Sugawa US 5371610.
3. Regarding claim 1, Sugawa teaches of an image processing apparatus for correcting data of each pixel in an edge area, comprising a first judgment unit for judging whether a target pixel is in a first edge area; a second judgment unit for judging whether the target pixel is in a second edge area having a lower intensity variation level than the first edge are (column 4, lines 40-65). Sugawa teaches of a first correction unit for conducting first correction processing on data of each pixel that is judged by the first judgment unit to be in the first edge area and a second correction unit for conducting second correction processing on data of each pixel that is judged by the second judgment unit to be in the second edge area (column 5, lines 41-60).

Art Unit: 2625

4. Regarding claim 2, Sugawa teaches the first correction unit conducts correction processing on at least one of the plurality of color component data differently from the other color component data and the second correction unit conducts correction processing on all of the color component data in a same manner (column 5, lines 5-60).

Regarding claim 5, Sagawa teaches the first judgment unit judges whether the target pixel is in the first edge area by comparing an output from the differential filter with a first reference value, and the second judgment unit judges whether the target pixel is in the second edge area by comparing the output for the differential filter with a second reference value that is smaller than the first reference value ((251) column 4, lines 40-51).

5. Regarding claim 13, the structural elements of apparatus claim 1 performs all of the steps of method claim 13. Thus, claim 13 is rejected for the same reasons discussed in the rejections of claim 1.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2625

2. Claims 3,4 and 6-12 are rejected under 35 U.S.C. 103(a) as being obvious over Sugawa US 5371610 in view of Hirota US 5357353.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Regarding claim 3, Sugawa teaches all of the limitations of claim 1.

Sugawa fails to teach of the data includes chromatic color component data and achromatic color component data and the second correction unit conducts correction processing only on the achromatic color component data.

Hirota teaches of the data includes chromatic color component data and achromatic color component data and the second correction unit conducts correction processing only on the achromatic color component data (column 7, lines 39-64).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Sagawa wherein Sagawa's method is applied to a second correction processing on achromatic color component data. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Sagawa by the teaching of Hirota in order to optimize the achromatic data of the color image data.

Regarding claim 4, Sagawa teaches all of the limitations of claim 1.

Sagawa fails to teach of the data is a density value and the first correction processing includes processing to increase or decrease the density value.

Hirota teaches of a color correction processor (66), in which black data is generated from read density data (column 7, lines 5-12). He also teaches of decreasing and increasing black data (column 7, lines 35-65), which reads on the data is a density value and the first correction processing includes processing to increase or decrease the density value.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Sagawa wherein Sagawa's method is applied to a first correction processing of increasing or decreasing density data. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify

Art Unit: 2625

Sagawa by the teaching of Hirota in order to optimize the density data of the color image data.

Regarding claim 6, Sagawa teaches all of the limitations of claim 1.

Sagawa fails to teach of the first judgment unit further judges whether the target pixel is a chromatic color pixel or an achromatic color pixel and the first correction unit conducts different processing depending on whether the target pixel is a chromatic color pixel or an achromatic color pixel.

Hirota teaches of a region discriminator (65) that determines whether a pixel is chromatic or achromatic color pixel (column 7, lines 39-45). Hirota also teaches that the color correction processor (66) processes data according to the decisions of the achromatic/chromatic color (column 7, lines 46-67). This reads on the first judgment unit further judges whether the target pixel is a chromatic color pixel or an achromatic color pixel and the first correction unit conducts different processing depending on whether the target pixel is a chromatic color pixel or an achromatic color pixel.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Sagawa wherein Sagawa's method is applied to a first judgment unit, which determines if a pixel is achromatic or chromatic. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Sagawa by the teaching of Hirota in order to identify a target pixel and to accurately process a particular type of pixel.

6. Regarding claim 7, Sagawa teaches of an image processing apparatus for correcting data of each pixel in an edge area, comprising a first judgment unit for judging whether a target pixel is in a first edge area; a second judgment unit for judging whether the target pixel is in a second edge area having a lower intensity variation level than the first edge are (column 4, lines 40-65). Sugawa teaches of a first correction unit for conducting first correction processing on data of each pixel that is judged by the first judgment unit to be in the first edge area and a second correction unit for conducting second correction processing on data of each pixel that is judged by the second judgment unit to be in the second edge area (column 5, lines 41-60).

7. Sagawa fails to teach of an image forming unit for forming an image based on the data corrected by the first correction unit and the second correction unit.

8. Hirota teaches of an image forming unit for forming an image based on the data corrected by the first correction unit and the second correction unit.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Sagawa wherein Sagawa's apparatus is applied to the an image forming unit. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify Sagawa by the teaching of Hirota in order to form an image using corrected image data.

9. Regarding claim 8, Sugawa teaches the first correction unit conducts correction processing on at least one of the plurality of color component data differently from the other color component data and the second correction unit conducts correction processing on all of the color component data in a same manner (column 5, lines 5-60).

Regarding claim 9, Hirota teaches of a region discriminator (65) that determines whether a pixel is chromatic or achromatic color pixel (column 7, lines 39-45). Hirota also teaches that the color correction processor (66) processes data according to the decisions of the achromatic/chromatic color (column 7, lines 46-67). This reads on the first judgment unit further judges whether the target pixel is a chromatic color pixel or an achromatic color pixel and the first correction unit conducts different processing depending on whether the target pixel is a chromatic color pixel or an achromatic color pixel.

Regarding claim 10, Hirota teaches of a color correction processor (66), in which black data is generated from read density data (column 7, lines 5-12). He also teaches of decreasing and increasing black data (column 7, lines 35-65), which reads on the data is a density value and the first correction processing includes processing to increase or decrease the density value.

Regarding claim 11, Sagawa teaches the first judgment unit judges whether the target pixel is in the first edge area by comparing an output from the differential filter with a first reference value, and the second judgment unit judges whether the target pixel is in the second edge area by comparing the output for the differential filter with a second reference value that is smaller than the first reference value ((251) column 4, lines 40-51).

Regarding claim 12, Hirota teaches of a region discriminator (65) that determines whether a pixel is chromatic or achromatic color pixel (column 7, lines 39-45). Hirota also teaches that the color correction processor (66) processes data according to the

decisions of the achromatic/chromatic color (column 7, lines 46-67). This reads on the first judgment unit further judges whether the target pixel is a chromatic color pixel or an achromatic color pixel and the first correction unit conducts different processing depending on whether the target pixel is a chromatic color pixel or an achromatic color pixel.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Burleson whose telephone number is 571-272-7460. The examiner can normally be reached Monday through Friday from 8:30 A.M. to 5:00 P.M.

Art Unit: 2625

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Twyler Lamb can be reached on 571-272-7406.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KAW Williams
Primary Examiner

Michael Burleson
Patent Examiner

MB

June 10, 2007